

# EXHIBIT E



**Amberger Kaolinwerke**  
A COMPANY OF QUARZWERKE GROUP

# SOLAR REFLECTIVE GRANULES



 **AKCool®**  
SOLAR REFLECTIVE GRANULES

**REFLECT. PROTECT. SAVE.**

Patented technology **MADE IN GERMANY**





## **AKCool® – PATENTED TECHNOLOGY**

The new, patented AKCool® granules are specially developed for bitumen mineral cap sheets used on roofs. The product is characterized by **permanently high reflectance values and especially long durability**. As a result, AKCool® helps lower building temperatures, minimize energy and operating costs, and meet building environmental standards.

### Optimized granules:

- Completely reflective (due to reflective core material)
- Optimized flaked granule shape and ideal particle size distribution for perfect coverage and fixation
- High hardness
- Minimal fines, low dusting
- Absolutely UV-resistant

### Optimized surface:

- Minimum staining thanks to highly hydrophobic and oleophobic surface
- Long-term durability of granules brings long-term reflectance to the roof system
- Perfect adhesion to bitumen surface due to microporous flake surface



Flake shaped structure of AKCool®.



AKCool® is coated to repel water and oil.

### Typical product features:

Property	Unit	Typical value	Test method
Solar reflectance	%	~ 84	ASTM C1549
Moisture content	%	≤ 0.5	DIN EN ISO 787-2
Water repellence	Min	≥ 120	ARMA Water repellency test
Hardness	-	≥ 7	MOHS
Particle size	mm	0.5 – 2.4	DIN 66165
Particle size	mesh	35 – 8	ASTM E11
Fines (< 150 µm)	%	≤ 0.5	DIN 66165
Fines (< 100 mesh)	%	≤ 0.5	ASTM E11





## AKCool® – THE BENEFITS



### REFLECT.

- Permanently high reflectance values: the pure granules reflect ~ 84 % of solar radiation
- Interior temperature of the building is reduced: pleasant living and working conditions for the inhabitants
- Ideal for hot regions and increasingly extreme temperature summers, even in temperate latitudes
- Optimized flaked granule shape for maximum bitumen coverage



### PROTECT.

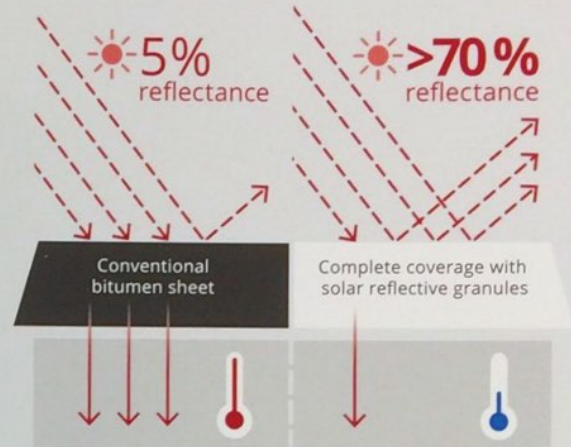
- High opacity granules protect the roof and super-structures from thermal stress, increasing their durability
- No cracking, weather-resistant, durable, resistant to repair work on the roof



### SAVE.

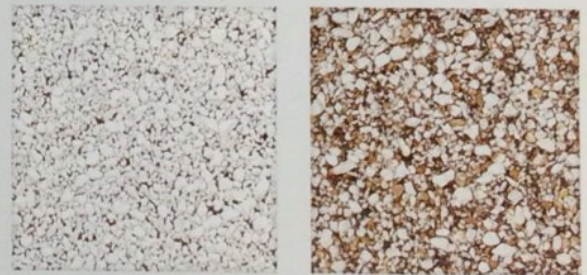
- Less energy needed for cooling, reduces energy costs and minimizes CO<sub>2</sub> emission
- Robust and durable, reduces operating and maintenance costs
- Counters the urban heat island effect, improving the microclimate in urban areas
- Helps meet ever-stricter environmental standards for buildings in terms of energy savings
- An important factor for LEED sustainability certification

#### High reflectance values



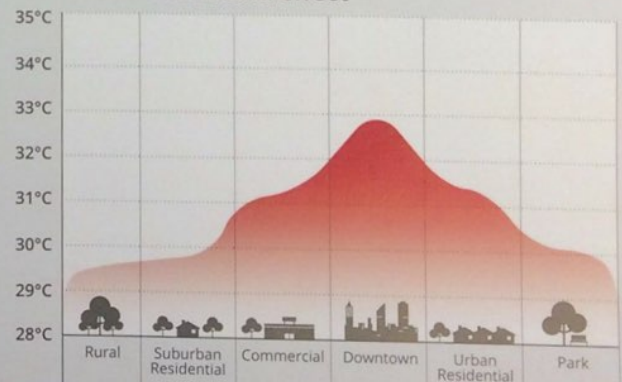
The pure AKCool® granules have a solar reflectance value of ~ 84 % (measured by ASTM C1549). The heat stays outside.

#### Minimum staining of the granules



In a 21-day oven test AKCool® granules (left) and standard cool roof granules (right), both fixed onto aggressive bituminous substrate, were subjected to high temperatures to simulate long-term effects. The result: AKCool® particles show significantly less staining from bituminous substrate.

#### Urban heat island effect



In large towns, the average ambient temperature is higher than the outskirts or the countryside due to the density of the built-up area. AKCool® solar reflective granules help counteract the urban heat island effect.





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## AKCool® – QUALITY MADE IN GERMANY

**With AKCool® solar reflective granules you're choosing quality made in Germany.**

Amberger Kaolinwerke is a specialist in extracting, processing and refining of industrial minerals and has access to significant amounts of the highest-quality raw materials. This enables us to supply our products to markets around the world. Our AKCool® solar reflective granules are the result of more than 10 years of experience and continuous development work in the field of cool roof applications.

Amberger Kaolinwerke is a member of the European Cool Roofs Council. This non-profit organization has set itself the task of promoting research and development of cool roof technologies and setting reliable quality standards for products and materials.



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#### LEGAL DECLARATION:

AKCool® is mainly produced from prepared natural raw minerals. All data are guideline values subject to variation and production tolerances. They are only provided for description purposes and do not represent any warranty concerning the existence of specific characteristics. The user is responsible for testing the suitability for specific purposes. If required, we can provide additional information on tolerances and on our experience in technical applications. Sales are subject to our Conditions of Sales and Delivery. The data provided represent average values. These constitute the best of our knowledge and experience. Nevertheless, all information offered is and shall remain non-binding.

#### SAFETY INFORMATION

For detailed information please see corresponding material safety data sheet.